RURAL WORKS DEPARTMENT

GOVT OF BIHAR

NAME OF WORKS :- L055 - T02 TO BATHURBARI EAST

BLOCK :- ARARIA

FDR

Phase-I

9,75,286

YEAR(2024-25)

R.W.D., WORKS CIRCLE, KISHANGANJ

R.W.D., WORKS DIVISION, ARARIA

प्रतिवेदन

L055 - T02 TO BATHURBARI EAST

पथ का नाम :–

कार्य का नाम :– L055 - T02 TO BATHURBARI EAST

में बाढ से क्षतिग्रस्त भाग में यातायात चालू करने का कार्य।

संलग्न प्राक्कलन 2024 को प्रखण्ड में आयी भीषण बाढ़ से क्षतिग्रस्त .... पथ .... में बाढ़ क्षतिग्रस्त मरम्मति मद से यातायात चालू करने हेतु तैयार किया गया है जिसकी प्राक्कलित लागत Nine lakh seventy five thousand two hundred and eighty five है। उक्त पथ का निर्माण .... योनान्तर्गत हुआ है एवं योजना अनुरक्षण अवधि में ....। पथ के कटे (क्षतिग्रस्त) भाग में आवश्यकता अनुसार Hume Pipe, Bamboo, लोकल बालू एवं Brick Bats देने के बाद यातायात चालू कराया गया है। पथ के विभिन्न हिस्से में कराये गये कार्य का विवरणी स्पष्ट रूप से प्राक्कलन में दर्शाया गया है।
प्राक्कलन मदो का दर वर्त्तमान अनुसुचित दर के अनुरूप है।

11/11/24	11/11/24	11/11/24
कनीय अभियंता,	सहायक अभियंता,	कार्यपालक अभियंता,
ग्रामीण कार्य विभाग,	ग्रामीण कार्य विभाग,	ग्रामीण कार्य विभाग,
कार्य प्रशाखा, Araria	कार्य अवर प्रमण्डल, Araria	कार्य प्रमण्डल, Araria.

SUMMARY OF COST ESTIMATE FOR THE PROJECT

NAME OF ROAD :-	L055 - T02 TO BATHURBARI EAST	
DISTRICT :-	ARARIA	
BLOCK :-	ARARIA	
Length of Road:-	0.00KM	
Length of Cutting in mtr :-	50.000	
Sl. No.	DESCRIPTION	AMOUNT (LAKHS)
1	Filling of local sand	331453.13
2	Labour for cutting 62mm to 75mm dia bamboo	33209.28
3	Labour for fitting 62mm to 75mm dia bamboo	4314.00
4	Labour for filling empty cement bags with local sand Nylon crate	0.00
5	Supplying of EC bag,of local sand	88346.28
6	Supply and Carriage of brick bats	502963.67
7	Supply,laying and carriage of 1000 mm HPC	0.00
8	Drone Videography Charj Three times	15000.00
	SUB TOTAL COST =	975286.36
	TOTAL (RS.) =	9,75,286

J.E 11/11/24 A.E 11/11/24 E.E 11/11/24

S.E

Technically ~~sanctioned~~ approved for ₹ 9,75,286=00 (Nine lakh Seventy-five thousand Two hundred Eighty-six) only

18/11/24

Superintending Engineer
RWD Work Circle
Kishanganj

Bill of Quantity

NAME OF ROAD :-		L055 - T02 TO BATHURBARI EAST			
DISTRICT :-		ARARIA			
BLOCK :-		ARARIA			
Sl. No.	DESCRIPTION OF ITEMS	QUANTITY	UNIT	RATE (Rs.)	AMOUNT (Rs.)
1	Filling of local sand obtained from river bed, watering & ramming. all complete job as per specification & direction of Engineer-in-incharge	260.42	CUM	1272.78	331453.13
3	Labour for cutting 62 mm to 75mm dia bamboo piles to size and making shoes & driving by jet machine etc. all complete job as per specfication & direction of Engineer- in -charge.	480.00	MTR	69.19	33209.28
4	Labour for fitting & fixing 62 mm to 75 mm dia bamboo runners in position at every vertical pile with 150 mm long nails or 38 swg G.I wire including cost of G.I wire or nails etc all complete job as per specification & direction of Engineer-in-charge.	120.00	MTR	35.95	4314.00
5	Labour for fiting empty cement bags with loocal sand, stitching the bags and placing in Nylon crate of size (1 m X 1 m X 1 m)with lead of 150 M including supply of sutli etc. at site in dry portion all complete as per approved design, specification and direction of E/I	0.00	Each	1151.80	0.00
6	Supplying of EC bag, filling of local sand stitching and placing in position as the direction of Engineer-in-charge.	1581.00	Each	55.88	88346.28
7	Supply and Carriage of brick bats upto 8 km breach and placing in breaches and lying of bats, all complete job.	182.29	CUM	2759.12	502963.67
8	Supplaying and carriage of hume pipe 1000 mm dia , all complete job.	0.00	RM	7385.85	0.00
			A) SUB TOTAL =		960286.36
			TOTAL COST =		960286

11/11/24 11/11/24 11/11/24

J.E A.E E.E

ESTIMATE FOR REPAIRING / RESTORATION/ MAKING MOTORABLE ROADS DAMAGED DURING FLOOD

NAME OF ROAD :-		L055 - T02 TO BATHURBARI EAST							
DISTRICT :-		ARARIA							
BLOCK :-		ARARIA							
Length of Cutting:-		~~50.00 mtr~~ 30.0 mtrs.							
Sl. No.	DESCRIPTION OF ITEMS	Unit	Nos.	L(m)	B(m)	D(m)	QUANTITY	RATE (Rs.)	AMOUNT (Rs.)
1	Filling of local sand obtained from river bed, watering & ramming, all complete job as per specification & direction of Engineer-in-incharge								
	At ch:-0.980km Phase-I	cum	1	30.00	(4.75+4.5+3.25)/3	(1.5+3.5+1.25)/3	260.42		
	Deductionfor H.P 1000MM dia (1.23 x 1.23)=1.52	cum	0	0.79	1.52	7.50	0.00		
		cum	total qty :-				260.417	1,272.78	331453.13
1	Labour for cutting 62 mm to 75mm dia bamboo piles to size and making shoes & driving by jet machine etc. all complete job as per specfication & direction of Engineer- in -charge.								
	At ch:-0.980km		2	12/0.2	4.00		480.00		
		Mtr.	toal qty:-				480.00	69.19	33,209.28

2	Labour for fitting & fixing 62 mm to 75 mm dia bamboo runners in position at every vertical pile with 150 mm long nails or 38 swg G.I wire including cost of G.I wire or nails etc all complete job as per specification & direction of Engineer-in-charge.								
	At ch:-0.980km		2	12.00	2.5/0.5		120.00		
		Mtr.			total qty :-		120.00	35.95	4314.00
3	Supplying of EC bag, filling of local sand stitching and placing in position as the direction of Engineer-in-charge.								
	At ch:-0.980km	cum	2	12.00	(1.25+0.9)/2	(1.5+3.5+1.25)/3	53.75		
	Total No of E C Bags(0.034cum=100Bags)			53.75	/	0.034	1581.00		
		Each			Say No of Bage :-		1581.00	55.88	88346.280
4	Providing laying & filling Geo bags of size 1m X 0.700m (Type A) 300 GSM nonwoven) weight 420 gm volume of filled bag 0.070 cum Weight of filled Geo bag 126 kg with local sand including stiching in four lines by approved Ntlon thread with Staching machine and generator, stacking and placing after loading, Unloading and carriage with the help of Trolly within 150 mtr. lead and all complete as per specification and direction of E/I.								
	At ch:-0.200km	cum	0	12.00	4.50	2.73	0.00		
	(0.07m3=1 no. of Geo Bags)			0.00	/	0.07	0.00		
		Each					0.00	332.74	0.000

5	Supply and Carriage of brick bats upto 8 km breach and placing in breaches and lying of bats, all complete job.								
	At ch:-0.980km Phase-I	cum	1.00	25.00	(4.75+4.5+3.25)/3	(0.55+0.85+0.75)/3	74.65		
	At ch:-0.980km Phase-II	cum	1.00	25.00	(4.75+4.5+3.25)/3	(0.75+1.5+0.85)/3	107.64		
		cum	total qty :-				182.29	2,759.12	502963.67
7	Supplaying and carriage of hume pipe 1000 mm dia , all complete job.								
	At ch:-0.200km	RM	0	2	2.5		0.00		
		RM	total qty :-				0.00	7,385.85	0.00
							A) SUB TOTAL =		960286.36
							TOTAL COST =		960286.36

11/11/24
Junior Engineer

11/11/24
Asstt. Engineer

11/11/24
Executive Engineer

S.E
KISHANGANJ

FINAL RATE UNDER WORKS CIRCLE KISHANGANJ

..No	Discription of Item	Unit	Final Rate (Excluding GST,Seigniorage & L.Cess)	Final Rate (Including GST,Seigniorage & L.Cess)	S.F. Per Cum / Per Bag BAG
1	EARTH WORK	CUM	459.003	549.740	3.530
2	BRICK BAT	CUM	2209.576	2759.115	129.720
3	G.S.B	CUM	4328.501	5172.300	21.380
4	SAND BAG (Cement Bag)	Each	46.550	55.880	0.490
5	BAMBOO PILE	Per Mtr.	58.140	69.186	
6	BAMBOO CHACHRI	Per Mtr.	302.258	359.690	
7	BAMBOO RUNNER	Per Mtr.	30.210	35.950	
8	HUME PIPE (1000 mm Dia)	Per Mtr.	6206.598	7385.850	
9	HUME PIPE (600 mm Dia)	Per Mtr.	2492.260	2965.790	
10	STEEL DRUM SHEET	Per Sqr.Mtr.	215.352	256.270	
11	GEO BAG WITH SAND	EACH	967.490	1152.320	1.010
12	EACH N.C. BAG WITH SAND (Cement Bag)	Each E.C	967.490	1151.800	0.490
13	LOCAL SAND	CUM	721.110	1272.780	0.490

11/11/24
Junior Engineer

11/11/24
Assistant Engineer

11/11/24
Excutive Engineer

Superintending Engineer
Rural Works Department
Works Circle Kishanganj

BASIC RATES
(A) Labour

Sl. No.	Description of Labour	Unit	Rate (Rs.)
L-01	Bhisti	day	373
L-02	Bitumen Sprayer (semi skilled)	day	393
L-03	Blacksmith special	day	503
L-04	Blaster, 2nd class	day	619
L-05	Carpenter 1st Class	day	503
L-06	Chips spreader semi-skilled	day	449
L-07	Chiseller (Skilled)	day	577
L-08	Dresser (Skilled)	day	472
L-09	Driller 2nd class	day	449
L-10	Electrician skilled	day	476
L-11	Fitter skilled	day	511
L-12	Mason (1st class)	day	503
L-13	Mason (2nd Class)	day	449
L-14	Mate, Semi skilled	day	397
L-15	Mazdoor (Unskilled)	day	373
L-16	Mazdoor (Semi skilled)	day	388
L-17	Mazdoor (Skilled)	day	472
L-18	Painter (1st class)	day	476
L-19	Plumber Special	day	476
L-20	Surveyor	day	454
L-21	White Washer	day	476
L-22	Head blacksmith	day	531
L-23	Welder 1 St Class	day	584
	Carpenter Head	day	531
	Night Gurad	day	415

(Basic Rates Taken From SOR, Seventeenth Edition, Road Construction Department, Govt. of Bihar effective from 01/04/2023

BASIC RATES
(B) Material

Sl. No.	Description	Unit	Basic Rate as per SOR	Add Royality	Final Rate With Royality
M-001	Bamboo (1st Class) 100 mm - 100 mm dia. 6.0 m -8.0 m long (per mtr.- 23.52 Rs.)	No.	188.00		188.00
M-002	Bamboo (1st Class) 100 mm - 100 mm dia. 6.0 m -8.0 m long (per mtr.- 23.52 Rs.)	No	188.00		188.00
M-003	Bamboo (1st Class) 50 mm - 100 mm dia. 6.0 m -8.0 m long (per mtr.- 14.71 Rs.)	No	118.00		118.00
M-004	Bamboo (1st Class) 50 mm - 100 mm dia. 6.0 m -8.0 m long (per mtr.- 14.71 Rs.)	No.	118.00		118.00
M-005	Bamboo (2nd Class) 75mm dia. 1.8 m - 6.0 m -8.0 m long (per mtr.- 22.03 Rs.)	No.	176.00		176.00
M-006	Bamboo (2nd Class) 75mm dia. 6.0 m -8.0 m long (per mtr.- 22.03 Rs.)	No.	176.00		176.00
M-007	Brick Bats	cum	1063.00	18.00	1081.00
M-008	Selected earth (Including @ Rs. 33.00 per cum & compensation @ Rs. 2.25 Per Cum	cum	2.25	33.00	35.25
M-009	Empety Cement Bag IS 11652:2000	Nos.	11.11		11.11
M-010	Steel Drum 300 mm dia 1.2 m high / empty bitumen drum	Nos.	170.13		170.13
M-011	Sand bags (Cost of sand and Empty cement bag)	Nos.	7.31	2.59	9.90
M-012	Sutli (Brown)	kg	20.59		20.59
M-013	Granular material (Natural occuring, soil gravel mixture / quarry waste, kankar, laterite, dhandla	cum	84.03	83.00	167.03
M-014	Nails	kg	108.00		108.00
M-014	RCC Pipe NP3 (1000 mm dia)	m	5787.23		5787.23
M-015	RCC Pipe NP3 (600 mm dia)	m	2310.00		2310.00
M-015	Sand (Fine) at source	cum	69.75	75.00	144.75
M-016	Empety Steel Drum 300 mm dia 1.2 m height	Nos.	170.13		170.13
M-016	Water	kl	60.30		60.30
M-017	Geo Bags	Each	124.00		124.00
M-018	G.S.B.	cum	69.75	75.00	144.75

(Basic Rates Taken From SOR, Seventeenth Edition, Road Construction Department, Govt. of Bihar effective from 01/04/2023.

BASIC RATES

(C) USAGE RATES OF PLANT & MACHINERY

s.	or Code	Description of		Output of Machine		Usage Rates in Rs.	
		Machine	Activity	Unit	Output	Unit	Rate
009	PAM-012	Crane upto 80 T	Lifting of materials			per hour	5,373.00
010	PAM-015	Dozer D80 - A12 Dozer D 50 - A15	Dozing cutting	cum/h	260.00	per hour	2,997.00
011				cum/h	120.00		1,326.00
014	PAM-017	Front end loader 1 cum bucket capacity @ 45 cum/hour	Loading Aggregates	cum/h	45.00	per hour	[illegible]
017	PAM-026	Hydraulic Excavator of 1cum bucket	Excavation	cum/h	100.00	per hour	2,272.00
-031	PAM-044	Three wheel 80-100 kN Static Roller	Compaction Rolling			per hour	1,593.00
-032			Earth:- Embankment or sub-grade	cum/h	80/70		1,593.00
M-033			Sub-base G-I	cum/h	10.00		1,593.00
M-034			Sub-base G-II G-III	cum/h	8.00		1,593.00
M-035			WMM	cum/h	16.00		1,593.00
PM-036			BUSG	cum/h	10.00		1,593.00
PM-037			BM 50/75 mm	cum/h	12.00		1,593.00
PM-038			Premix 20 mm	sqm/h	250.00		1,593.00
PM-039			Seal Coat	sqm/h	500.00		1,593.00
PM-040			Surface Dressing 1st Coat	sqm/h	400.00		1,593.00
PM-041			Surface Dressing 2nd Coat	sqm/h	500.00		1,593.00
PM-042	PAM-048	Tipper 5.5 cum 10 t	Carriage	cum/trip	5.50	per hour	1,426.00
PM-043	PAM-053	Tractor with Disc Harrows	Pulverisation of soil	cum/h	80.00	per hour	693.00
PM-044	PAM-053	Tractor with ripper @ 60 cum per hour	Ripping Pavements, uprooting trees	cum/h	60.00	per hour	697.00
PM-045	PAM-055	Tractor with trolley with Grading equipment	Transportation of materials	t/trip	3 to 5	per hour	676.00
PM-046	PAM-054	Tractor with Rotavator	Scarifier	cum/h	25.00	per hour	693.00
PM-047	PAM-057	Truck 10 t capacity	Carriage	cum/trip	5.50	per hour	1,054.00
PM-048	PAM-059	Vibratory roller 80-100 kN	Compaction of soil WMM	cum/h	100.00	per hour	2,053.00
PM-049			Compaction of BM	cum/h	60.00		2,053.00
PM-050	PAM-060	Water tanker 6 Kl capacity (Truck Mounted)	Carriage of water	litre/h	12000.00	per hour	752.00
PM-063	PAM-000	generator 3KVA	stiching	per hour		per hour	74.00
PM-064	PAM-000	stiching machine	stiching	day		day	50.00

(Basic Rates Taken From SOR, Seventeenth Edition, Road Construction Department, Govt. of Bihar effective from 01/04/2023.

SUMMARY OF CARRIGE COST

Sl. No.	Item	Unit	Amount (Rs.)
1	Earth Work	Cum	274.42
2	Brick Bats	Cum	521.97
3	Bamboo	Per Mtr.	3.00
4	G.S.B.	Cum	2960.13
5	Local Sand	Cum	345.14
6	HUME PIPE (1000 mm DIA)	Per Pipe	745.93
7	HUME PIPEP PIR METER	Per Mtr.	298.37
8	HUME PIPE (600 mm DIA)	Per Pipe	310.88
9	HUME PIPE (600 mm DIA)	Per Mtr.	124.35
10	Local Sand	Cum	345.10

Comparison of carriage cost of Material via Road from different sources

Carriage Cost & Lead in Km

Sl No	Item	Unit	Source	Pucka / Surface				Kutcha				[illegible]	Estimated Rate	Cost
1	By Tractor													
A	Earth Work Via Road	Cum	Local	3.60 / 2.04	x 20.04	x 6 Km	= Rs 6.66	3.60 / 2.04	x 31.30	x [illegible]	= Rs 55.26	[illegible]	[illegible]	[illegible]
B	Brick Bat Via Road	Cum	Local	3.60 / 2.04	x 20.04	x 7 Km	= Rs 247.55	3.60 / 2.04	x 31.30	x [illegible]	= Rs 55.24	[illegible]	[illegible]	[illegible]
B	Bamboo Via Road	pet mtr.	Local	3.60 / 126.00	x 20.04	x 2 Km	= Rs 1.15	3.60 / 126.00	x 31.30	x [illegible]	= Rs 1.38	[illegible]	3.30	[illegible]
D	Local Sand Via Road	Cum	Local	3.60 / 2.04	x 20.04	x 2 Km	= Rs 70.73	3.60 / 2.04	x 31.30	x [illegible]	= Rs 55.24	[illegible]	345.14	[illegible]
2	By Tipper													
A	GSB Via Road	Cum	Siliguri	8.00 / 4.99	x 9.83	x 177 Km	= Rs 2789.43	8.00 / 4.99	x 23.81	x 1 Km	= Rs 3.36	[illegible]	2968.15	[illegible]
3	By Truick													
A	Hume Pipe (1000 mm) Via Rod	Mtr.	purnea	8.00 / 10.00	x 7.27	x 53 Km	= Rs 308.25	8.00 / 10.00	x 17.60	x 0 Km	= Rs 0.00	[illegible]	745.35	[illegible]
A1	Rate Per Mtr. Pipe	Mtr.	purnea						Rate per mtr				298.37	298.370
B	Hume Pipe (600 mm) Via Road	Mtr.	purnea	8.00 / 25.00	x 7.27	x 53 Km	= Rs 123.30	8.00 / 25.00	x 17.60	x 0 Km	= Rs 0.00	137.38	310.88	[illegible]
B1	Rate Per Mtr. Pipe	Mtr.	purnea						Rate per mtr				124.35	124.350

Cost of Haulage Excluding Loading & Unloading as per SO' Subjected to Verification of Lead

11/11/24
Junior Engineer
R.W.D. Works Section

11/11/24
Asstt. Engineer
R.W.D. Works Sub - Division,

11/11/24
Executive Engineer
R.W.D. Works

SDB Sl. No	MORD Ref No.	DESCRIPTION	Unit	QTY	Rate	Amount in Rs
		Carriage Of Material (By Tractor)				
		Loading and unloading of stone Boulder /stone aggregates sand/ kankar / moorum				
		Loading and unloading of stone Boulder /stone aggregates sand/ kankar / moorum exluding time for haulage and return				
4.4		Placing tractor at loading point loading with front end loader dumping ,turning for return trip				
		trip				
		Unit = cum				
		Taking output = 2.25 cum				
		Time required for	min	1 min		
	i)	positioning of tractor at loading point	min	5 min		
	ii)	Loading by front end loader 1 cum bucket capacity @ 25 cum		6 min		
		Total				
					397.00	11.91
	a)	Labour	day	0.030	373.00	268.56
		Mate	day	0.720		
		Mazdoor (Unskilled)			676.00	67.60
	b)	Machinery	hour	0.100	1,419.00	117.78
		Tractor 3.60 Tonnes Capacity	hour	0.083		465.85
		Front end loader 1 cum buckert capacity @ 25 Cum/hour				207.044
		Cost for 2.25 cum = a+b+c	cum			207.044
		Rate per cum = (a+b+c)/2.25	cum			
		Total per cum				
		Haulage excluding Loading & Unloading				
1.10		Haulage of material by truck excluding cost of loading, Unloading and stacking				
		Unit = Tkm				
		Taking output 3.6t load and lead 10km = 36t/km				
		Case- I : Surfaced Road				
		Speed with load : 15km per hour				
		Speed while returning empty : 25km per hour				
	a)	Machinery				450.89
		Tractor 3.6 tonnes Capacity	hour	0.667	676.00	270.40
		Haulage with load	hour	0.400	676.00	721.29
		Empty return trip				20.040
		Cost for 36t/km = a+b+c				20.040
		Cost for 1 t_km = a+b/36				
		Total per t per km				
		Case - II Kutcha Track and Track in River Bed / Nallah Bed and Choe Bed				
		Speed with load : 10km per hour				
		Speed while returning empty : 15km per hour				
	a)	Machinery				
		Tractor 3.6 tonnes Capacity	hour	1.00	676.00	676.00
		Haulage with load	hour	0.667	676.00	450.89
		Empty return trip				1126.89
		Cost for 36t/km = a+b+c				31.300
		Cost for 1 t_km = a+b/36				31.300
		Total per t per km				
2		**Carriage Of Material (By Tipper)**				
1.1		**Loading and Unloading Lime, Aggregate, Stone Boulder, Brick Aggregate, Kankar, Building Rubbish, Crushed Slag, Stone for Masonry Work by Manual Means**				
	(I)	Loading of lime, Aggregates, Stone boulder, Brick aggregate, Kankar, Building Rubbish, Crushed Slag Stone for masonry work by manual means including a lead upto 30m				
		Unit = cum				
		Taking output = 5.5 cum				
		Time required for		1Min		
	(i)	Position of tipper at loading point		13Min		
	(ii)	loading by front end loader 1 cum bucket capacity @25		2Min		
	(iii)	maneuvering, reversing, dumping and turning for return		4Min		
	(iv)	Waiting time unforeseen contingencies etc		20Min		
		Total				
	b)	Machinery				
		Tipper 5.5 Tonnes Capacity	hour	0.330	1,426.00	470.58
		Front end loader 1 cum buckert capacity @ 25 Cum/hour	hour	0.330	1,419.00	468.27
		Cost for 5.5 cum = a+b+c				938.85

			Rate per cum = (a+b+c)/5.5	cum			170.79
			Total per cum	cum			**170.790**
			Haulage excluding Loading & Unloading				
	1.10		*Haulage of materials by truck excluding cost of Loading, Unloading and stacking*				
			Unit 1km				
			Taking output 10t load and lead 10km = 100t km				
			Case- I Surfaced Road				
			Speed with load 25km per hour				
			Speed while returning empty 35km per hour				
		a)	***Machinery***				
			Tipper				
			Haulage with load	hour	0.40	1426.00	570.40
			Empty return trip	hour	0.29	1426.00	413.54
			Cost for 100t km = a+b+c				983.94
			Cost for 1 t_km = a+b/100				9.839
			Total per t per km				**9.839**
			Case - III Kutcha Track and Track in River Bed / Nallah Bed and Choe Bed				
			Speed with load 10km per hour				
			Speed while returning empty 15km per hour				
		a)	***Machinery***				
			Tipper				
			Haulage with load	hour	1.00	1426.00	1426.00
			Empty return trip	hour	0.67	1426.00	955.42
			Cost for 100t km = a+b				2381.42
			Cost for 1 t_km = a+b+c/100				23.81
			Total per t per km				**23.810**
3			***Carriage Of Material (By Truck)***				
	1.10		***Haulage excluding Loading & Unloading***				
			Haulage of materials by truck excluding cost of Loading, Unloading and stacking				
			Unit 1km				
			Taking output 10t load and lead 10km = 100t km				
			Case- I : Surfaced Road				
			Speed with load 25km per hour				
			Speed while returning empty 35km per hour				
		a)	***Machinery***				
			Truck				
			Haulage with load	hour	0.40	1054.00	421.60
			Empty return trip	hour	0.29	1054.00	305.66
			Cost for 100t km = a+b+c				727.26
			Cost for 1 t_km = a+b/100				7.270
			Total per t per km				**7.270**
			Case - III Kutcha Track and Track in River Bed / Nallah Bed and Choe Bed				
			Speed with load 10km per hour				
			Speed while returning empty 15km per hour				
		a)	***Machinery***				
			Truck				
			Haulage with load	hour	1.00	1054.00	1054.00
			Empty return trip	hour	0.67	1054.00	706.18
			Cost for 100t km = a+b				1760.18
			Cost for 1 t_km = a+b+c/100				17.60
			Total per t per km				**17.600**
	1.9		***Loading and Unloading of Hume Pipes***				
		(i)	*Loading of RCC Hume pipes by mechanical means including a lead upto 30 m*				
		A.	***1000 / 1200 mm dia Hume pipe***				
			Unit = per pipe				
			Taking output = 9 pipes				
		a)	***Labour***				
			Mate	day	0.02	397.00	7.94
			Mazdoor (Unskilled)	day	0.50	373.00	186.50
		b)	***Machinery***				
			Truck	hour	0.33	1054.00	347.82
			Crane	hour	0.33	5573.00	1839.09
			Cost for 9 pipes = a+b+c+d				2381.35

			Rate per pipe = (a+b+c)/9	*per p*			*264.594*
			Total per pipe				***264.594***
		C.	***600/450 mm dia Hume pipe***				
			Unit = per pipe				
			Taking output = 21 pipe				
		a)	***Labour***				
			Mate	*day*	*0.02*	*397.00*	*7.94*
			Mazdoor (Unskilled)	*day*	*0.50*	*373.00*	*186.50*
		b)	***Machinery***				
			Tractor 3.60 Tonnes Capacity	*hour*	*0.33*	*1054.00*	*347.82*
			Crane	*hour*	*0.33*	*5573.00*	*1839.09*
			Cost for 21 pipes = a+b+c+d				*2301.35*
			Rate per pipe = (a+b+c)/21	*per p*			*113.398*
			Total per pipe				***113.398***
		(iii)	***Unloading of RCC Hume pipe by Mechanical means including a lead upto 30 m***				
		A.	*1000/1200 mm dia RCC Hume pipes*				
			Unit = per pipe				
			Taking output = 9 pipes				
		a)	***Labour***				
			Mate	*day*	*0.02*	*397.00*	*7.94*
			Mazdoor (Unskilled)	*day*	*0.50*	*373.00*	*186.50*
		b)	***Machinery***				
			Truck	*hour*	*0.20*	*1054.00*	*210.80*
			Crane	*hour*	*0.20*	*5573.00*	*1114.60*
			Cost for 9 pipes = a+b+c+d				*1519.84*
			Rate per pipe = (a+b+c)/9	*per p*			*168.871*
			Total per pipe				***168.871***
		C.	***600/450 mm dia Hume pipe***				
			Unit = per pipe				
			Taking output = 21 pipes				
		a)	***Labour***				
			Mate	*day*	*0.020*	*397.00*	*7.94*
			Mazdoor (Unskilled)	*day*	*0.50*	*373.00*	*186.50*
		b)	***Machinery***				
			Truck	*hour*	*0.20*	*1054.00*	*210.80*
			Crane	*hour*	*0.20*	*5573.00*	*1114.60*
			Cost for 21 pipes = a+b+c+d				*1519.84*
			Rate per pipe = (a+b+c)/21	*per p*			*72.373*
			Total per pipe				***72.373***
	1.9		***Loading and Unloading of Bamboo***				
		(i)	*Loading & unloading Bamboo*				
			Unit = per metre				
			Taking output = per mtr.				
		a)	*Material*				
			Bamboo =2016/300	*per pipe*			*6.72*
			Bamboo Per Mt	*per mt*			*0.96*
			Total per m				***0.960***
4	3.3	301.5	***Construction of Embankment with material obtained from roadway cutting***				
			Construction of Embankment with approved material deposit at site from roadway cutting and excavation from drain and foundation of other structure graded and compacted to meet requirement of Table 300.1 and 300.2 as per Technical Specification Clause 301.5.				
			Unit = cum				
			Taking output = 100 cum				
		a)	***Labour***				
			Mate	*day*	*0.02*	*397.00*	*7.94*
			Mazdoor (Unskilled)	*day*	*0.50*	*373.00*	*186.50*
		b)	***Machinery***				
			Dozer D -50 for spreading @200 cum per hour	*hour*	*0.50*	*0.00*	*0.00*
			Motor Grader for grading @200 Cum per hour	*hour*	*2.00*	*697.00*	*1,394.00*
			Water tanker 6 kl capacity	*hour*	*2.00*	*752.00*	*1,504.00*
			Three Wheel 80-100 kN Static Roller	*hour*	*1.25*	*1593.00*	*1,991.25*
		c)	***Material***				
			Water	*kl*	*12.00*	*60.30*	*723.60*
			Cost for 100 cum = a+b+c+d+e				5807.29

			Rate per cum = (a+b+c+d)/100	cum			58.073
			Total per cum	cum			58.073
	3.5	301.5	**Excavation in soil with Dozer with lead upto 100 m**				
	(ii)	(ii)	Excavation for roadway in soil by mechanical means including cutting and pushing the earth to site of embankment upto a distance of 100 m, including trimming bottom and side slopes in accordance with requirements of lines, grades and cross-sections.				
			Unit = cum				
			Taking output = 100 cum				
		a)	Labour				
			Mate	day	0.08	397.00	31.60
			Mazdoor (Unskilled)	day	2.00	373.00	822.00
		b)	Machinery				
			Dozer D -50 for spreading @200 cum per hour	hour	3.60	4326.00	15,573.60
			Cost for 100 cum = a+b+c+d+e				16427.20
			Rate per cum = (a+b+c+d)/180	cum			91.262
			Total per cum	cum			91.260
	3.3	301.5	Construction of Embankment with approved material obtained from borrw pits with a lift upto 1.5 m transporting to site, spreding grading to required slope and compacting to meet requirement of Table 300.1 and 300.2 with a lead of 1000 m as per Technical				
			Unit = cum				
			Rate item no. 3.3 Clause 301.5				58.073
			Rate item no. 3.5(ii) Clause 301.5				91.260
			Royalty Compensation for earth taken from priyate land				35.250
			Carriage of Earth by Tractor Lead 1 K.M.				274.420
			Total Cost of 1 cum=				459.003
			Labour Cess @ 1%				4.590
			G.S.T. @ 18%				82.621
			Add Seigniorage Fee @ 10 % of Materials	cum	1.00	35.25	3.53
			Total Cost of 1 cum 1% Cess & 18 % GST =				549.743
	4.5		**Providing and Laying of Brick Bats**				
			Placing tractor at loading point loading with front end loader dumpong ,turning for return trip exluding time for haulage and return tirp				
			Unit = cum				
			Taking output = 2.83 cum				
		a)	Labour				
			Mazdoor (Unskilled)	day	2.170	373.00	809.41
		b)	**Materilas**				
			Brick Bats	cum	3.396	1,081.00	3671.08
			Total (a+b)=				4480.49
			Total (a+b+c) =				4480.49
		d)	**Carriage**				
			Brick Bats	cum	3.396	521.97	1772.61
			TOTAL				6253.10
			Rate per cum = (a+b+c+d)/2.83	cum			2209.576
			Total per cum	cum			2209.576
			Labour Cess @ 1%				22.096
			G.S.T. @ 18%				397.724
			Add Seigniorage Fee @ 10 % of Materials	cum	1.20	1,081.00	129.72
			Total Cost of 1 cum 1% Cess & 18 % GST =				2,759.115
8	4.1	401	PAVEMENT CRUST LAYERS				
			For Grading II Material				
			Construction of granular sub-base by providing well graded material, spreading in uniform layers with tractor mounted grader arrangement on prepared surface, mixing by mix in place method with rotavator at OMC, and compacting with smooth wheel roller to achieve the desired density, complete as per Technical Specification Clause 401				
		(ii)	**For Grading II Material**				
			Unit = cum				
			Taking output = 300 cum				
		a)	**Labour**				
			Mate	day	0.48	397.00	190.56
			Mazdoor (Skilled)	day	2.00	472.00	944.00
			Mazdoor (Unskilled)	day	10.00	373.00	3730.00

							4864.56
		b)	Machinery	hour	12.00	676.00	8112.00
			Tractor mounted grader	hour	30.00	1593.00	47790.00
			Three wheel 80-100 kN static roller @ 10 cum per hour	hour	12.00	693.00	8316.00
			Tractor with Rotavator 25 cum per hour	hour	5.00	752.00	3760.00
			Water tanker 6 kl capacity				67978.00
		c)	Material				213.80
			Well graded granular sub-base material as per Table 400.1	cum	1.28	167.03	73056.36
			GSB				243.521
			Cost of 300 cum without Carriage = (a+b+c+d+e)	cum			
			A) Basic Cost per cum = (a+b+c+d+e)/300				1225493.82
			CARRIAGE	cum	414.00	2960.13	1225493.82
			GSB				4084.98
			Carriage cost of 300 cum				4328.501
			B) Carriage cost per cum	CUM			4328.501
			Rate per cum = (A+B)	CUM			43.285
			Total per cum				779.130
			Labour Cess @ 1%				21.38
			G.S.T. @ 18%	cum	1.28	167.03	5,172.296
			Add Seigniorage Fee @ 10 % of Materials				
			Total Cost of 1 cum 1% Cess & 18 % GST =				
	9.3	1100	Providing and laying reinforced cement concrete pipe NP3 for culverts on first class bedding of granular material in single row including fixing collar with cement mortar 1:2 but excluding excavation, protection works, backfilling, concrete and masonry works in head walls and parapets Clause 1106				
		B.	**1000 MM DIA (Single Row)**				43404.23
		a)	Material	m	7.50	5787.23	
			RCC NP3 pipe including collar				35.73
		b)	Labour	day	0.09	397.00	125.75
			Mate	day	0.25	503.00	746.00
			Mason (1st class)	day	2.00	373.00	44311.71
			Mazdoor (Unskilled)				5908.23
			Cost for 7.5m = (a+b+c)	m			5908.23
			A) Basic Cost per m = (a+b)/7.5				
			Rate per m of Pipe				2237.78
		(d)	**CARRIAGE COST**	m	7.5	298.37	2237.78
			NP3 Pipe				298.37
			Carriage cost of 7.5 m	m			6,206.598
			Carriage cost per m	m			6,206.598
			Rate per m with Carriage	m			62.066
			Total per m				1,117.188
			Labour Cess @ 1%				7,385.852
			G.S.T. @ 18%				
			Total Cost of 1 mtr. 1% Cess & 18 % GST =				
2		C.	**600 MM DIA (Single Row)**				
		a)	Material	m	7.50	2310.00	17325.00
			RCC NP3 pipe including collar				
		b)	Labour	day	0.04	397.00	15.88
			Mate	day	0.12	503.00	60.36
			Mason (1st class)	day	0.96	373.00	358.08
			Mazdoor (Unskilled)				17759.32
			Cost of 7.5m = (a+b+c+d)	m			2367.91
			A) Basic Cost per m = (a+b)/7.5				2367.91
			Rate per m of Pipe				
			CARRIAGE COST	m	7.5	124.35	932.63
			NP3 Pipe				932.63
			Carriage cost of 7.5 m	m			124.35
			B) Carriage cost per m	m			2,492.260
			Rate per m with Carriage	m			2,492.260
			Total per m				24.923
			Labour Cess @ 1%				448.607
			G.S.T. @ 18%				2,965.789
			Total Cost of 1 mtr. 1% Cess & 18 % GST =				
3	5.7.40.1		Labour for filling empty cement bags with local sand, stitching the bags and placing including supply of sutti etc. all complete as per approved design, specification and direction E/I.				

		Unit = Per % Nos.				
		(A) For Filling & Stitching & Stacking				
		Labour				
		Skilled Labour for filling sand into bags and sewing	No.	2.00	472.00	944.00
		sutali	kg	0.50	20.59	10.30
		(B) Labour Rate For Carrying & Placing filed E.C. Bags.				
		Labour				
		Skilled Labour for Carrying filed bags and placing to work site	No.	3.00	472.00	1416.00
		TOTAL =				2370.30
		Per % Nos. (B) =			Say.	2370.30
		Rate per bag (A+B)= /100				23.70
		(C) Cost of empty cement bag & cost of sand	each			11.11
		(D) Carriage cost				
		Tractor with trolly	cum	0.034	345.14	11.73
		(G)Totel =(A+B+C+D) =				46.55
		Labour Cess @ 1%				0.465
		G.S.T. @ 18%				8.379
		Add Seigniorage Fee @ 10 % of Materials	cum	0.034	144.75	0.49
		Total Cost of 1 E.C.Bag 1% Cess & 18 % GST =				55.882
5.7.9		Supply Labour for fitting and fixing 62 mm to 75 mm dia bamboo runners in position at every verticle pile with 150 mm long nails or 38 swg G. I. wire including cost of G.I. or nails complete job as per specification and direction				
		Unit = Per mt.				
		Taking Out Put = 30.50 m				
	(i)	Materials				
		Bamboo	m	30.50	20.21	616.41
		Nails	kg	0.50	108.00	54.00
	(ii)	Labour				
		Carpenter Gr -II	No.	0.125	531.00	66.38
		Unskilled Labour	No.	0.25	373.00	93.25
		Rate for 30.5 m				830.04
		TOTAL =				830.04
		Rate per mt				27.21
	(iii)	Carriage cost				
		bamboo	mt	1	3.00	3
		Total Cost with Carriage				30.21
		Labour Cess @ 1%				0.302
		G.S.T. @ 18%				5.439
		Total Cost of 1 mtr. 1% Cess & 18 % GST =				35.955
5.7.7		Labour for cutting 62 mm to 75 mm dia bamboo piles in size and making shoes and driving etc. complete bob as per specification and direction E/I.				
		Unit = Per mt.				
		Taking Out Put = 30.50 m				
		Assurning				
		20 no pile sunk 1.525 m deeps				
		Total depth sunk 30.50 m				
	(i)	Materials				
		Bamboo	m	30.50	20.21	616.41
	(i)	Labour				
		Carpenter Gr -II	No.	0.25	531.00	132.75
		Unskilled Labour for piling	No.	2.50	373.00	932.5
		Rate for 30.5 m				1681.66
		Total				1681.66
		Rate for 1 m				55.14
		Carriage Cost of Bamboo	per mtr.			3.00
		Total Cost with Carriage				58.14
		Labour Cess @ 1%				0.581
		G.S.T. @ 18%				10.465
		Total Cost of 1 mtr. 1% Cess & 18 % GST =				69.182

		Labour for fitting and and fixing Steel Drum 300 mm dia 1.2 m high as per specification and direction				
		(Assuming Per Mtr. = 3.14x0.30= 0.942 mtr.)				
		Area of Assuming in one Drum = 0.942x1.20 = 1.130 Sqm				
		One Sqm sheet Cost = 127.80/1.130 = 113.12 Cost				
		Unit = per sqm				
		Taking Out = 100 sqm				
	a	*Labour*				
		Hammer man	No.	4.00	531.00	2124.00
		Mazdoor (Unskilled)	No.	4.00	373.00	1492.00
		Carpenter 1st Class	No.	4.00	503.00	2012.00
	b	*Materials*				5628.00
		Nails	kg	5.00	170.13	850.65
		Steel Drum sheet	Nos	88.5	170.13	15056.51
						21535.160
		Rate Per m = (a+b+c)/100				**215.352**
		Labour Cess @ 1%				**2.154**
		G.S.T. @ 18%				**38.763**
		Total Cost of 1 mtr. 1% Cess & 18 % GST =				**256.268**
5.7.8 WRD		*Labour for fitting and and fixing split bamboo woven chachari in position with 20 swg G.I. wire of 75 mm to 100 mm long nails alternatively including cost of G.I. wire or nails complete job as per specification and direction of E/I.*				
		(Assuming strip of 3.05x3.05 = 9.30 sqm				
		Unit = per sqm				
		Taking Out = 9.30 sqm				
	a	*Labour*				
		Carpenter Gr -II	No.	1.00	531.00	531.00
		Mazdoor (Unskilled) for pilling	No.	1.00	373.00	373.00
	b	*Materials*				
		Bamboo	Mtr.	10.00	188.00	1880.00
		Nails	kg	0.25	108.00	27.00
						2811.000
		Rate Per m = (a+b+c)/9.30				**302.258**
		Labour Cess @ 1%				**3.023**
		G.S.T. @ 18%				**54.406**
		Total Cost of 1 mtr. 1% Cess & 18 % GST =				**359.687**
5.7.50		*Providing laying & filling Geo bags of size 1m X 0.700m (Type A) 300 GSM nonwoven) weight 420 gm volume of filled bag 0.070 cum Weight of filled Geo bag 126 kg with local sand including stiching in four lines by approved Ntlon thread with Staching machine and generator, stacking and placing after loading, Unloading and carriage with the help of Trolly within 150 mtr. lead and all complete as per specification and direction of E/I.*				
		Unit = Each Bag				
		Taking Out = 40 Nso.				
		Labour				
		Unskilled Loading For filling stacking	nos	2	373.00	746.00
		Skilled labour for stacking	nos	0.33	472.00	155.76
		Unskilld labour for carring and placing	nos	4.00	373.00	1492.00
		Mate	nos	0.25	397.00	99.25
		Stiching Machine	day	0.33	50.00	16.50
		Tractor with trolley	day	1.00	676.00	676.00
		Generator 3KVA	hrs	20.67	74.00	1529.58
		Total				**4715.09**
		Rate per bag (total/40) (A)				**117.88**
	(II)	*charge for placing & dumping*				
		unskilled labour for loading unloading & dumping	nos	16	373.00	6320.00
		Mate	nos	1	397.00	419.00
		Tractor with trolley	each	4	676.00	2704.00
		Total				**9,443.000**
		Rate per bag (Total/256) (B)				**36.887**
		Matroials				
		cost of Geo Bag	each	1	124.00	124.00
		Total cost (a+b+c)				**278.764**